



Photo: Marjo Koivumäki

## NDF's role has never been more relevant says Chairman Hans Olav Ibrekk

**I**n the wake of the most recent IPCC report and on the heels of the COP 24 Climate Change conference in Poland, it's fair to say that never has the work of NDF been more relevant or more urgent," asserts NDF Board Chair **Hans Olav Ibrekk**.

With the adoption of the Paris Agreement and the subsequent development of the Paris Rulebook, the time has now come to act. A recent UN report put the window for averting global climate disaster at only 12 years.

"We need to scale up our activities and start delivering at speed," Ibrekk warns, "including increasing our climate financing opportunities."

### Small player big impact

NDF is well-positioned as a proven effective vehicle for channeling much needed climate finance to countries most in need.

NDF as a funding partner is also mandated to take on larger risks than many other financing mechanisms, for example in piloting emerging technologies and approaches for market readiness.

"NDF as albeit a small player can compete most efficiently by being innovative and developing projects that can attract private sector partners and be scaled up."

### "NDF has a much-needed role to play"

### Increased focus on private sector

In line with this strategy, NDF is also moving away from a traditional grant-based approach to a range of equity-based financing instruments. In 2018, 82% of financing was non-grants, up from 29% the previous year. "This demonstrates our increased focus on private sector and revenue-generating activities," Ibrekk affirms.

### Spike up in funding demand

In 2018, NDF saw a strong increase in funding demand, only a limited amount of which we were able to take on. In light of the overwhelming need at the macro level and given the growing demand for viable project funding, NDF has a much-needed role to play. During 2018, NDF's Board approved funding of EUR 47.15 million for nine new projects, amounting to an estimated annual avoided emissions of 2.3 million tonnes of CO<sub>2</sub>, the equivalent of 3 million people travelling from Helsinki to Paris and back by aircraft.

"Right now, NDF serves a niche, and with its proven efficient use of funds could become a scaled-up vehicle with an even greater impact. But only if its owners, the Nordic Governments, so wish."

---

## This issue highlights NDF's ongoing success in activating private-sector climate funding

---

**NDF leads with  
innovation at  
COP 24**

p. 2-3

**Blended financing  
a banner theme  
in 2018**

p. 4-5

**News from NCF / Solar  
home systems power  
enterprise in Malawi**

p. 6-7

**NDF empowers farmers  
while fighting climate  
change in Nicaragua**

p. 8

*Overview of NDF at COP 24 – December 2018: Active participation across the board at COP 24 in Katowice, Poland confirms NDF is on the right track with its strategy and approach.*



## NDF makes strong showing at COP24 in Katowice, Poland

The most overarching outcome of the COP24 meeting in Katowice, Poland was the approval of a Rulebook for the Paris Agreement. NDF Program Manager, **Aage Jørgensen**, who represented NDF during week one of COP24 says: “While the Rulebook may not be perfect, at least there is now a framework in place that will allow us to start the implementation of the Paris Agreement.”

Jørgensen participated in panel discussions in four side events, together with NDF partner organisations. The thematic side-events focused on energy inclusion, African

cities, infrastructure investments, and health. The focus was predominantly on building resilience to climate change impacts. At Transport Day 2018, which brought together more than 200 transport professionals, NDF was in the Adaptation session, presenting new tools and guidelines, which are now becoming available for practitioners. “Overall, the comments and feedback from partners served to validate NDF’s current funding approach as strategic, adding value, and much needed,” Jørgensen affirms.



Photo: Aage Jørgensen

## NDF-backed CRAFT heralded as promising new funding approach

Further afield from the Nordic-driven events, NDF’s Vice President and Acting Managing Director, **Leena Klossner**, participated in strategic meetings as well as two high-level COP side events: **the 3rd Annual Climate Resilience and Adaptation Investment Event** organised by the Inter-American Development Bank, and the **Innovative Finance to Build Climate Resilience Event**, hosted by the Climate Policy Initiative and the Global Innovation Lab for Climate Finance.

The first event staged the official launch of the NDF-funded Climate Resilience and Adaptation Finance and Technology Transfer Facility (CRAFT). This is the world’s first market-driven fund for climate resilience, which was highlighted at both events and extraordinarily well-received.

“CRAFT was heralded by the international investor and development communities at COP as one of 2018’s most promising new funding approaches,” Klossner reports. NDF has recently approved a EUR 8.5 million equity investment together with a EUR 1.5 million grant for CRAFT, following on from an earlier preparatory grant of EUR 0.5 million, made together with a grant from the Global Environment Facility.

“Overall the substance of the gatherings we hosted or took part in at COP 24 confirmed that NDF is right on track with our strategy and approach,” says Klossner, adding, “while the general mood was positive, it was also defined by a sense of urgency, that the time has come to redouble our efforts.”



Photo: Joel Sheakoski

## Unique side event puts innovation front and centre

The Nordic Finance Day, held at the Nordic pavilion during week two, was hosted by the Nordic Council of Ministers. Four side events were jointly organised and developed by the Nordic Investment Bank (NIB), the Nordic Environment Finance Corporation (NEFCO) and NDF. The NDF debate game staged in the afternoon was not only a good energiser but also a valuable exchange of views on a topic, which is core to the NDF’s mission. Should climate finance be directed to innovation?

**Debate statement: Climate finance should primarily be directed to innovation in order to hold temperature rise to 1.5°C.**

Moderator, NCF Manager **Emeli Möller** began the event by framing the topic in opening remarks. To set the scene for the debate, NDF Vice President and Acting Managing Director **Leena Klossner** continued with presenting NDF’s newly minted study exploring the role of challenge funds in spurring innovative climate solutions prepared by NDF. One of its findings is that innovation can take many forms and there is space for innovation on a number of fronts.

The two teams were given a preparation period before presenting their opening arguments. This was followed by a midway pause for OECD’s Deputy Director **Anthony Cox** to take the floor and give an unbiased recapture of the ideas presented so far – giving food for thought for the second round of the debate.

### Proponents versus opponents

Those arguing in favour of the statement made the overarching case that if we are going to reach Paris goals, climate

finance should be focused on innovation. In presenting their arguments, the proponents did take licence on how innovation could be defined. They did not limit innovation to technological advancement but also expressed innovation in other ways, such as financing new projects with unique, innovative partnering approaches or new types of service delivery models.

Their opponents, arguing against the debate statement, focused more on the urgency of climate action and the consequent need for an immediate and comprehensive action plan. We have all the technologies and solutions we need to succeed, they contended. Now it’s time for action.

Talking about the event, **Mads Randbøll Wolff**, Project Leader for the Nordic Pavilion, with the Nordic Council of Ministers said: “We have an ambition in our Nordic cooperation to be engaging, dialogue-based and inclusive. Only a few people dare to step outside of their comfort zone. And that’s what I liked about this event, it dared!”

### The final verdict

Following closing remarks from both teams, a panel of judges made up of **Hyojun Jenny Kim**, Deputy General Secretary of the Global Green Growth Initiative; **Linus Mofor**, Senior Environmental Affairs Officer of the UN Economic Commission for Africa; and NDF’s Vice President and Acting Managing Director, Leena Klossner put their heads together to decide the winner. Teams were assessed based on how convincingly they presented their arguments, with points also given for creativity and presentation. Even though the proponents, arguing in favour of directing more financing to innovation won narrowly, both teams were energised and engaged, and ultimately in agreement.

## Blended financing a banner theme in 2018

NDF's 2018 results were characterised by a sizeable shift in our funding portfolio towards financing instruments other than traditional grants, including loans, equity and reimbursable grants.

"We see the benefits of this shift towards a blended financing approach as two-fold," explains **Leena Klossner**, Vice President and Acting Managing Director NDF. "First, it promotes the viability of our projects, and second, the use of equity investments enables a climate funding environment that will increasingly spur much-needed private sector involvement."



**UN SDGs a vital framework for action**

We see the United Nations Sustainable Development Goals (SDGs) as a global blueprint and vital framework for action in building a more sustainable and inclusive future. The nine newly-approved projects in 2018 targeted the following SDGs, notably with 100% focused strongly on the three key SDGs of eliminating poverty, gender equality and climate action.

A full copy of NDF's newly-released 2018 Results Report can be found at [www.ndf.fi](http://www.ndf.fi).

## World's first market-driven strategy for climate resilience

Over the last two years, going through the COP 23 and 24 processes, **Sanjay Wagle**, Managing Director, The Lightsmith Group and CRAFT Co-Founder saw first-hand what little attention was being given to climate adaptation and resilience.

"The statistics bear this out," Wagle says, citing the Climate Policy Initiative (CPI), which tracked climate financing of USD 400 billion over the last two years and found that only 5% of the total went towards adaptation.

"Clearly it needs to be more than that," Wagle asserts. "With CRAFT, we want to find a way of connecting private institutional pools of capital to the climate adaptation problem."

**Minding the adaptation gap**

The good news is that many of the right tools to assess and manage climate risks and impacts are already out in the market. Wagle divides these tools into two types. First, software, data analytics, modelling and forecasting. "Information is a great way to start," Wagle explains. "If you can have actionable localised data about climate risks and impacts, then you can start to manage and address those risks."

The second is existing physical products and services. CRAFT has already identified 20 target market segments with companies already active in the adaptation space and ready for scale. These are in areas such as weather and agricultural analytics, disaster risk modelling, and distributed water solutions.

**Not only North to South transfer**

Wagle stresses this is not only about a one-way technology transfer from US and European companies. "We're also

finding companies in developing countries and opportunities to bring technologies and solutions from South to South and South to North."

One natural-disaster risk modelling company based in India is now expanding its capacity to model risk for agriculture, energy and the built environment to serve customers in other parts of Asia and Africa, as well as customers in the US and Europe.

**NDF interest from the outset**

"NDF was very out front in supporting our strategy early on," says Wagle. "They recognised that very little was being done in adaptation and the need for private sector involvement."

In 2017, NDF gave CRAFT an initial preparatory grant of EUR 0.5 million, together with a grant from the Global Environment Facility, to help develop and launch this unique strategy.

"It wasn't easy getting started," Wagle recalls, "especially in a new area like adaptation, which doesn't have a prior investment track record, and with a focus on developing countries."

But so far CRAFT has been very well received by the investor and development community. It is also being touted as the first and only private sector investment strategy to focus exclusively on climate adaptation and resilience, based on a CPI study.

NDF will stay on the journey as one of the fund's early investors, which according to Wagle has provided positive impetus for many other public and private investors to come on board.

## EEP first call moving towards implementation

*The Energy and Environment Partnership Trust Fund covering Southern and East Africa (EEP Africa) is a multi-donor trust fund managed by NDF. The fund provides early-stage grants and repayable grants between EUR 200,000 and 1 million to innovative clean energy projects, technologies and business models.*



Photo: EEP Africa

Launched in 2018, EEP Africa has become NDF's newest blended finance vehicle for mobilising private sector resources and partnerships for clean energy and green growth.

"Taking on management of EEP Africa marks the first time NDF is administering funds on behalf of other donors," says NDF Program Manager, **Charles Wetherill**. "This makes it an exciting new funding vehicle for NDF and part of a broader portfolio shift toward more private sector-oriented activities and financing."

In November 2018, EEP Africa approved 28 new projects, representing EUR 14 million in new financing commitments. This newly-approved portfolio is characterised by a high share of projects targeting renewable energy for productive use like agricultural processing, irrigation, pumping, freezing, drying, or running electric motorbikes, amongst others. Gender is also a strong feature in many of the projects selected.

**New portfolio examples include:**

- **Distributing and financing clean energy products for working mothers in Nairobi slums.** This project scales up an innovative distribution channel for energy products, such as clean cook stoves, to working mothers

leveraging a network of child-care centres. In this case, client payment histories will act as credit-determinants for asset-finance approval and working, and often single mothers will have access to finance and clean energy products.

- **Transformational solar hybrid power solution for Northern Uganda municipal market.** Frequent grid outages are a serious barrier to business for local market sellers operating. This project will pilot a public-private partnership with the local municipality and aims to provide power to more than 2000 predominantly female market vendors.
- **Innovative biogas technology in Namibia.** This project will develop and test a Waste to Energy concept in which waste water sludge bonds together with energy crops to produce green electricity and field fertilisers. The project, led by a Finnish company, aims to cover the final stages of development of a new biogas plant.

Implementation of the 28 projects is expected start by the end of the first quarter 2019, following the completion of contract negotiations.

## Kenya-Nordic Green Hub a strong example of private sector taking the lead

*New testing platform to showcase Nordic technology, business and financing models with the goal of curbing emissions and promoting climate resilience.*

An approved EUR 500,000 NDF grant will go towards the transfer of technologies and business experience from the Nordic countries into the Nairobi urban context, with the Kenya-Nordic Green Hub as the facilitating body. The proposed hub will bring proven Nordic knowhow with the goal of curbing emissions and promoting climate resilience. This approach has already been tested successfully with a similar public-private partnership up and running in New York offering Danish technology solutions, such as stormwater management, for urban resilience.

The consortium is headed by the Confederation of Danish Industry in partnership with the Kenya Association of Manufacturers, Aalto University, Inclusive Business Sweden, Quercus Group, DI Learning Lab, Business Finland, Innovation Norway, Business Sweden, and State of Green.

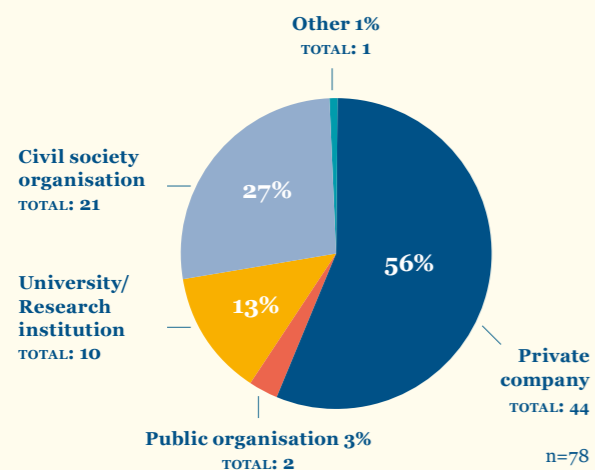
"What makes this project particularly interesting," says **Aage Jørgensen**, NDF Program Manager, "is that it's a testing platform that combines not just Nordic technologies but also smart Nordic business and financing models, and the business sector that's taking the lead." While the target partners in Kenya are public institutions responsible for urban infrastructure, the final beneficiaries will be the residents of Nairobi themselves.

## NCF 8 moving towards implementation in 2019

In August 2018, NCF's 8th call for proposals was launched under the theme *Testing the business viability of climate solutions*. A total of 121 concept note applications were received, with projects proposed for implementation in 20 out of the 21 eligible NCF countries – the most common being Kenya, Ghana and Uganda. With regards the Nordic lead applicant countries, the largest number of applications came from Denmark, followed by Norway and Finland.

"Private companies represented almost half of the full pool of applicants", notes NCF Manager **Emeli Möller**, "which fits well with NCF's goal of identifying climate solutions with real impacts that can be made into sustainable business models." Agriculture & fishery and energy were by far the most targeted sectors among the applications. And while the focus leaned more strongly towards mitigation projects, compared with adaptation, most could be classified as combination projects, serving aspects of both climate change mitigation and adaptation.

By the end of 2018, the 121 applications had been evaluated and 26 applicants invited to present full project proposals. Out of these 26 shortlisted projects, private companies made up more than half (56%) of all applicants and the proportion of NGOs become the second most common applicant type, growing from 12% in the initial concept note phase to 27% in the full-proposal phase (see figure below).



## Challenge fund study shows innovation in many forms

The NDF-managed challenge funds, Nordic Climate Facility (NCF) and the Energy and Environment Partnership Trust Fund (EEP Africa) were the focus of the new NDF-published study, *Spurring Climate Innovation through Challenge Funds*.

By picking up some of the initial risk and uncertainty, challenge funds can kick start a small idea with a potentially big impact, and smooth the way for more traditional financing options, as well as private sector involvement, thus spurring innovation. The study, released on 18 December 2018 at the Nordic Pavilion COP24 in Katowice, Poland, marked the first time a systematic approach has been used to assess what type of innovation NDF's challenge funds foster.

### What was considered innovative in the project proposals?

Innovation can take many forms, with technology innovation making up only a small portion of the proposals under review. The study found that innovation lies rather in the method, that is, in how technologies, products or services are applied within a project. In other words, how the project aims at making these work better, more affordably or more easily accessible for populations that did not have access to them before – 35% of the project applications were categorised as innovative based on their method.

One example is an NCF-financed project in Bolivia, which aims to demonstrate the potential of using probiotic bacteria to improve productivity in dairy farming and at the same time reduce GHG emissions.

Another type of innovation, the service offered, was found to be the source of innovation in 12% of the applications. An example of this is an NCF-financed project in Burkina Faso, which uses ICT tools to provide meteorological services for rural farmers at an affordable price and in an understandable format.

The data for the publication was collected from NCF calls 6, 7 and 8 and EEP Africa call 14. In total, 329 proposals were analysed, 305 under NCF calls and 24 from EEP Africa. The publication is available on the NDF and NCF websites.

## Solar home systems power enterprise in Malawi

"In Malawi even if you're on the grid, you can't count on lighting or running basic appliances, because there are so many blackouts!" laments **Hellen Chabunya**, Country Director, Total LandCare Malawi. "And most people don't have access anyway."

Malawi has the lowest rate of electricity access in Africa, with less than 10 percent of the 18 million population able to access electricity, and a notably low average household electrification rate in rural areas of less than 2%.

### Solar home systems take on energy poverty in Malawi

To address this immense energy poverty challenge, Danish off-grid solar housing system provider M-PAYG is teaming up with local Malawi partners, the NGO Total LandCare Malawi, and its subsidiary TLC-Enterprises, in an NCF-sponsored pilot.

"Our goal is to empower Malawi's rural small farming households with access to cheap and clean, on-demand electricity, while improving family health and mitigating climate change," Chabunya asserts.

The mobile pay-as-you-go solar home systems, will be sold on a lease-to-own basis to rural low-income households.

"Families joining the project will make small mobile payments that break down the total cost into affordable chunks," explains **Asgar Trier**, M-PAYG Founder. "This makes the solution radically affordable for these people who have never before been able to access sustainable solar energy."

The shift to solar in many cases means eliminating environmentally degrading existing energy sources such as kerosene and battery torches for lighting; or firewood and charcoal for cooking. "Over the targetted two-year period, we expect to reduce greenhouse gas emissions, CO<sub>2</sub>e, by at least 2,730 tonnes by 2020," Trier predicts.

### Expanding mindsets beyond basic needs

The project began by assessing the markets in Nkhosakota and Ntchisi, where 1,700 households were surveyed. But there's a problem. "Almost everyone we interviewed wanted the system," Chabunya reports, "but they can't all afford it." Therefore, even during the initial survey phase, she and her team wanted to show people additional energy uses and potential income generating appliances stemming from the system that could help fund the down payments. "Access to energy opens up a much bigger arena than people first think."

According to Chabunya, the first focus is usually on lighting and powering some appliances like a phone, radio



Photo: M-PAYG

or TV – having a TV in these communities is already a big status upgrade. But the project also aims to go beyond basic electrification. As Chabunya puts it: "We want to inspire people to think more about what's possible. To ask themselves: what could we use this power for and how might it better our lives? You could say it's about expanding mindsets."

Entrepreneurial activities already in the pipeline include phone charging stations; home hair salons; investing in fridges to sell juice and cold beer; and one pilot family is even planning a TV pay-to-view service. All helping to expand and optimise family incomes beyond farming.

# Empowering farmers while fighting climate change

*The Nicaragua Biogas Programme, in partnership with MIF and NDF, and implemented by SNV, has just completed with far-reaching economic, social and environmental effects across the country's farming sector. Big gains came from increased productivity and quality of life for farming households, environmental stewardship, and not least climate change mitigation.*

## Productivity plummeting

**F**ive years ago, when the project kicked off, Nicaragua had the second lowest electrification rate in the Latin America and Caribbean region, with 26% of the population lacking access to electricity. Fuel prices were also skyrocketing. **Emmanuel Bejar**, Central American Director at SNV, laments that “in the absence of an affordable energy replacement, productivity was plummeting in the milking sheds.” Farmers and their families were also suffering the daily health consequences of substituting wood-fuel for their cooking.

“Most homes would only be able to purchase fuel for boiling the morning coffee, but when it came to slow cooking the beans, they would have to resort to wood burning.” This was at great respiratory risk for women and children inside the house, as well as contributing to deforestation and harmful greenhouse gas emissions. In the search for a better way, the farmers found the solution right in front of them.

## Turn manure into money

Using manure collected from the farms' own cows, the programme worked with farmers to close the loop on energy for their milking sheds, crop growing, and household needs. By mixing manure with water in closed containers called biogas digesters, farmers learned how to produce clean, low-cost fuel called biogas, together with a side product of bio slurry – a high-quality organic fertiliser that could go right back onto their land.

“Of course, getting going wasn't as simple as it might sound,” Bejar recalls. A previous biogas project in Nicaragua had failed to gain ground. Bejar believes this was mostly because the biodigesters had been fully subsidised with no market mechanism and no trained local actors for after care or technical assistance. Farmers were wary of coming back to the table.

“In these farming circles, just one negative comment multiplies by ten into the community,” Bejar explains, “so the project had to gradually rebuild trust.”

## Clients not beneficiaries

They began by checking the boxes on training local masons for constructing the biodigesters and technical assistants



Photo: SNV Nicaragua

to do follow-up maintenance, which under the programme was mandatory for the year after construction. Farmers participating were incentivised by subsidies, but it was never more than 50%.

“The programme worked because farmers became clients not beneficiaries,” says Bejar, “and, it now has the highest number of installed digesters of any other market-driven biogas project in Latin America.”

## Industry-wide impacts

There are also surprising impacts extending beyond individual farms and advancing Nicaragua's entire dairy industry; notably, its ability to meet international milk quality standards.

“Milk quality is directly linked to chilling and distance,” Bejar explains, “and the farms in our programme are quite remote.” Many have reinvested their savings into mechanical milking systems and milk chilling units, also fuelled by biogas, which ensures higher productivity and that the milk won't spoil during transportation to processing plants. Other farmers are also using biogas for irrigation and grass cutting.

## Market-driven, climate-friendly technologies

Under the programme, about 1,400 families adopted a biogas system, which translates into a reduction of 10,107 tonnes of fuelwood and the mitigation of 13,845 tonnes of greenhouse gas. With the pilot validated and ready for scale, Bejar and his team are now preparing to promote this successful model in other geographies.

“NDF was a good fit for SNV in this start-up phase,” Bejar affirms, “because we both share the belief in a scalable, market driven, technology-based approach, which is what made the Nicaragua Biogas Project so successful.”



*The Nordic Development Fund is a joint Nordic development financing institution that supports climate-related projects in Africa, Asia and Latin America.*